PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of: **Wessling, *et al.***	)	Confirmation No.:	6200
Serial No.: 10/808,677	)	Art Unit:	3744
Filed: March 25, 2004	)	Examiner:	Ali, Mohammad M.
For: PHASE CHANGE MATERIAL FOR TEMPERATURE CONTROL AND MATERIAL STORAGE	)	Docket No.:	322101.1030

REPLY BRIEF UNDER 37 C.F.R. §41.41

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Reply Brief under 37 C.F.R. §41.41 is submitted in response to the Examiner's Answer mailed on January 7, 2008.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those which may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. §1.136(a), and any fees required therefor (including fees for net addition of claims) are hereby authorized to be charged to Thomas, Kayden, Horstemeyer, & Risley, L.L.P. Deposit Account No. 20-0778.

REMARKS

For at least the reasons set forth in the Appeal Brief, Applicants respectfully traverse all of the rejections set forth in the Examiner's Answer.

Responses to various arguments set forth in the Examiner's Answer for various claims are set forth below.

Claims 1-3, 5, 10-12, and 22-27

It is asserted in the Examiner's Answer that "the phrase 'positioned in close proximity to a biological material such that a temperature of the biological material is maintained near the desired phase change temperature,' is the material's intended use, and is not a functional limitation of the material itself, and therefore holds limited patentable weight." Applicants respectfully disagree. In this regard, the phrase sets forth qualifications regarding the actual ***position*** of the claimed material. Thus, the phrase qualifies how the material is arranged and does not merely recite an "intended use," as alleged in the Office Action. Moreover, full patentable weight should be given to the phrase at issue.

In addition, it is further alleged in the Office Action that *Johnson* discloses that "seventy five (75%) of devices froze between .5 degree c and -.5 degree C and the examiner finds it is equivalent to a phase change temperature close to a desired temperature above zero degree Celsius and below 3.8 degree Celsius." Applicants respectfully disagree with the allegation that such a disclosed range in *Johnson* is an "equivalent" of the temperature range recited in claim 1. In this regard, temperatures at and below freezing *(i.e.*, at and below 0 degrees Celsius) can damage biological material. Thus, a range, such as between .5 and -.5 degrees Celsius, that includes temperatures at and below freezing is not "equivalent" to the range recited by claim 1, which is "***above*** zero degrees Celsius." (Emphasis added).

Moreover, for a similar reason, Applicants submit that it would be inappropriate to use *Johnson* in a 35 U.S.C. §103 rejection, if such a rejection should arise. In this regard, one of ordinary skill, in searching for phase change material to be used for controlling the

temperatures of a "biological material," would be discouraged from trying to find material that changes phase in a range at and below freezing. Thus, one of ordinary skill, in the instant case, would be discouraged from seeking the teachings of a "freeze indicator," such as is described by *Johnson*. "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant." *In re Gurley*, 2 F.3d 551, 31 U.S.P.Q.2d 1130, 11331 (Fed. Cir. 1994).

Claims 6-8

Hjerstrand discloses a phase change material that is to be positioned in close proximity to biological material. However, *Hjerstrand* fails to teach that such a phase change material is to be composed of a mixture of deuterium oxide and water, sometimes referred to as "heavy water." *Johnson*, on the other hand, suggests the use of a mixture of deuterium oxide and water for the purpose of forming a "freeze indicator." For at least the reasons set forth in the Appeal Brief, Applicants respectfully assert that the combination of *Hjerstrand* and *Johnson* is improper. In addition, as set forth above in the arguments for allowance of claim 1, one of ordinary skill, in searching for phase change material to be used for controlling the temperatures of "biological material," would be discouraged from trying to find material that changes phase in a range at and below freezing. Thus, one of ordinary skill, in the instant case, would be discouraged from seeking solutions from references pertaining to "freeze indicators," including references that teach a phase change range from .5 to -.5 degrees Celsius, for at least the reason that such phase change material can damage the "biological material." Accordingly, when the prior art is properly viewed as whole, including the teachings that diverge from and teach against the claimed invention, it becomes apparent that the alleged combination is improper under 35 U.S.C. §103. "(P)rior art references before the tribunal must be read as a whole and consideration must be given where the references diverge and teach away from the claimed invention." *Akzo N.V. v. U.S. International Trade*

Commission, 808 F.2d 1471, 1481, 1 U.S.P.Q.2d 1291 (Fed. Cir. 1986), *cert. denied*, 482 U.S. 909.

Claim 21

A new rejection is set forth in the Examiner's Answer with respect to claim 21. In particular, claim 21 is rejected under 35 U.S.C. §103 as allegedly unpatentable over *Johnson* and as allegedly unpatentable over *Hjerstrand* in view of *Johnson*. Via the filing of this Reply Brief, Applicants request that the appeal be maintained in view of this new grounds of rejection.

In rejecting claim 21, it is asserted in the Office Action that *Johnson* discloses a biomaterial at column 2, lines 46-63. Applicants have reviewed such a cited section of *Johnson* and find no "biological material" for which the "phase change material" is positioned in close proximity "such that a temperature of the biological material is controlled by the phase change material." Thus, for at least this reason, Applicants respectfully assert that *Johnson* fails to suggest at least "positioning the phase change material close to a biological material such that a temperature of the biological material is controlled by the phase change material," as recited by pending claim 21.

In addition, for at least the reasons set forth above and in the Appeal Brief with respect to claims 6-8, Applicants respectfully assert that the alleged combination of *Johnson* and *Hjerstrand* is improper.

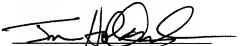
For at least the above reasons, Applicants respectfully assert that the 35 U.S.C. §103 rejection of claim 21 should be overruled.

CONCLUSION

Based on the foregoing discussion and the arguments set forth in the Appeal Brief, Applicants respectfully request that the Examiner's final rejections of claims 1-8, 10-13, and 21-27 be overruled and withdrawn by the Board, and that the application be allowed to issue as a patent with all pending claims.

Respectfully submitted,

THOMAS, KAYDEN, HORSTEMEYER & RISLEY, L.L.P.

By: 

Jon E. Holland
Reg. No. 41,077
(256) 704-3900 Ext. 103

600 Galleria Parkway
15th Floor
Atlanta, GA 30339-5994